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10/689,366	10/20/2003	Mark Beaumont	DB001071-000	4384
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JONES DAY				
222 East 41st Street				
New York, NY 10017-6702				
EXAMINER				
LINDLOF, JOHN M				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/689,366

**Applicant(s)**

BEAUMONT, MARK

**Examiner**

JOHN LINDLOF

**Art Unit**

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-13 and 16-28 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-28 are presented for examination.

#### ***Claim Objections***

Claims 3-4, 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by Taylor, US Patent 4,992,933 (hereinafter Taylor).

2. As per claim 23, Taylor teaches:

A method for reflecting data in a matrix of processing elements about a line, comprising: shifting data between processing elements arranged in an array one-of rows and columns (see e.g. col. 9 line 65 - col. 10 line 38, fig. 7a-b); setting an initial count in each processing element according to one of the expressions  $(2 \times \text{Col\_Index}) \text{ MOD } (\text{array size})$  or  $(2 \times \text{Row\_Index}) \text{ MOD } (\text{array size})$  (see e.g. col. 10 reflection before and after of array; The claimed expression specifies the distance in one direction

that a data element must be moved in order to be in its reflected position such as shown in applicant's fig. 16A-H, 17; Taylor teaches shifting data elements a certain distance in a direction in order to be in their reflected position. This must be done in order to have the data in the correct positions. Therefore even though the data of Taylor travels along different paths, the end distance shifting in either the x or y direction for a row or column reflection is the value given by the claimed expression); where array size equals n for an  $n \times n$  array and n is greater than 3 (see e.g. col. 9 line 65 - col. 10 line 38, fig. 7a-b); modifying said initial count by a programmable amount at programmable intervals to produce a current count; and selecting output data as a function of said current count (The examiner asserts that the NEWS setting for each processing element sets the shift count to  $1+(n/2)$  (Col. 10 line 18). Further, data is made final (output) after the final shift has occurred, which is resultant on the initial count value.).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor, US Patent 4,992,933 (hereinafter Taylor), in view of Huang, MC68HC12 An Introduction: Software and Hardware Interfacing (hereinafter Huang).

3. As per claim 24, Taylor teaches:

The method of claim 23.

Taylor fails to explicitly teach wherein said modifying includes counting down from said current count.

Huang teaches wherein said modifying includes counting down from said current count (see e.g. Huang pg. 66).

Huang teaches rotating data sequentially by counting down and performing multiple sequential shifts so that each storage element receives the data held by every other element (see e.g. pg. 62-3 explaining shift and rotation instructions, pg. 66 shows example 2.22 executing a "RORA" rotate instruction and example 2.23 which shifts and wraps data through all the registers holding the data; using a "RORA" or rotate right instruction sequentially shifts the data by one place on each shift until each register has received the data held by each other register).

Taylor discusses performing a series of shift operations which move rows of data around an array (see e.g. col. 9-10). These shifts are not explicitly done through all of the data within a row, however Taylor clearly has the capability to perform varied length shifts. Huang discusses looping through all of the data within a row (see e.g. example 2.23 to count all occurrences of the value zero). Examiner asserts that sequentially shifting/rotating data including all elements within a row of data is extremely common in the art.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the teachings of Taylor and Huang to shift data using a decremementing count. Taylor teaches sequential shifts. Changing the shift distance by an amount

determined by a decrementing counter would have been obvious because it achieves the predictable result of shifting the data elements a different distance. Additionally, this uses the ability to move data to any processor in the array. It would also provide a way of counting data elements such as disclosed by Huang.

4. As per claim 25, Taylor teaches:

The method of claim 24 wherein said selecting occurs when said current count is a non-positive value (see e.g. Huang pg. 66).

5. As per claim 26, Taylor teaches:

The method of claim 23 wherein said shifting includes a wrap shift (see e.g. Taylor Fig. 7a and 7b disclose shifting occurring where values wrap from one row/column to the row/column on the other side of the array.).

6. As per claim 27, Taylor teaches:

The method of claim 26 wherein said wrap shift includes shifting data one of east to west, west to east, north to south and south to north (see e.g. Taylor Fig. 7b discloses data moving east to west along the row and from west to east as it wraps from the far left column to the far right column.).

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2, 5-13, 16-22, 28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of copending Application No. 10/689380. Although the conflicting claims are not identical, they are not patentably distinct from each other because the changes in claim language would have been obvious over the parent patent.

This is a provisional obviousness-type double patenting rejection because the copending application 10/689380 has been given a notice of allowance, however no issue fee has yet been paid, therefore the conflicting claims have not in fact been patented.

Patent Application 10/689380	Instant Application
8. A method of controlling the position of	1. A method for <b>generating a reflection</b> of

data in a plurality of processing elements, comprising: shifting data within the plurality of processing elements along one of a row, column or diagonal in response to a command issued to said plurality of processing elements; each active processing element receiving data from processing elements connected thereto as a result of said data shifting; each active processing element selecting from among the received data, where each of the received data is a candidate for selection, at any point during said data shifting, one of the received data as a final output in response to that processing element's location within the plurality of processing elements; and saving said selected data.	data in a plurality of processing elements, comprising: shifting the data along either the rows or columns of the plurality of processing elements arranged in <b>an <math>N \times N</math> array, where <math>N</math> is greater than three</b> until each processing element in each row or column has received the data originally held by every other processing element in that row or column, respectively; and selecting from said received data, where each of the received data is a candidate for selection, a final output based on a processing element's position.
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Claims 2, 5-13, 16-22, 28 of the instant application and claims 2-26 of patent application 10/689380 are not patentably distinct from each other because the minor changes in claim language would have been obvious over the parent patent similarly to those shown above for claim 1.

### ***Allowable Subject Matter***

The prior art made of record teaches selecting and shifting data through arrays of elements, however, selecting is not done based on each element's position or location count, where each of the received data is a candidate for selection. Claims 1-22, 28 are allowable over the prior art, however claims 1-2, 5-13, 16-22, 28 remain rejected on the ground of nonstatutory obviousness-type double patenting. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or



specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

### ***Response to Arguments***

Applicant's arguments, see remarks filed 2/20/2009, with respect to claims 1-22, 28 have been fully considered and are persuasive. The prior art rejection of claims 1-22, 28 has been withdrawn.

Applicant's arguments with respect to claims 23-27 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN LINDLOF whose telephone number is (571)270-1024. The examiner can normally be reached on Monday-Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eddie P Chan/  
Supervisory Patent Examiner, Art Unit 2183

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